

(12) **UK Patent Application** (19) **GB** (11) **2 161 133 A**

(43) Application published 8 Jan 1986

(21) Application No 8516298

(22) Date of filing 27 Jun 1985

(30) Priority data

(31) 8417137

(32) 5 Jul 1984

(33) GB

(71) Applicant

Beecham Group plc (United Kingdom),
Beecham House, Great West Road, Brentford,
Middlesex TW8 9BD

(72) Inventor

Raymond George Smith

(74) Agent and/or Address for Service

B J Russell,
Beecham Products, Patents Department, St Georges
Avenue, Weybridge, Surrey KT13 0DE

(51) INT CL⁴

B65D 1/44

(52) Domestic classification

B8D 1A1 7P1 7PY CW3

(58) Documents cited

GB A 2042463

GB 1375070

EP A2 0094344

GB A 2025889

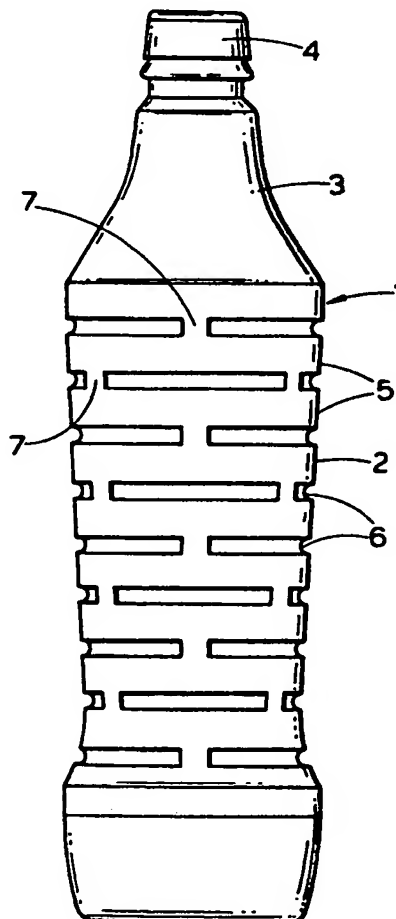
GB 1038897

(58) Field of search

B8D

(54) **Ribbed plastics container**

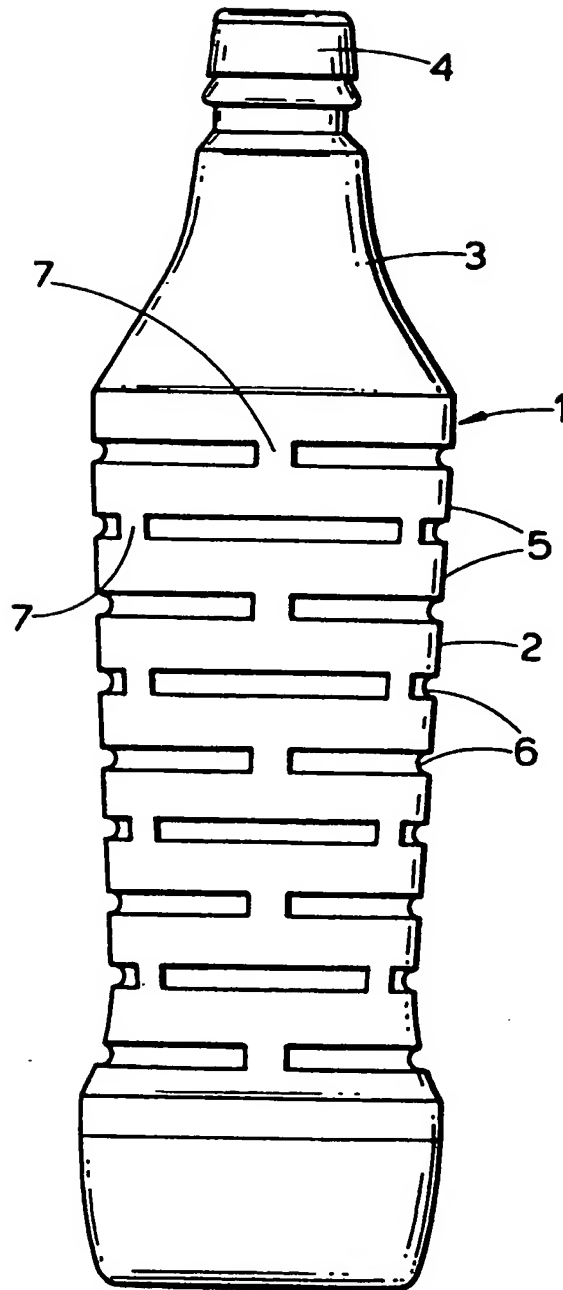
(57) A substantially cylindrical plastics container, eg. a bottle (1), has a number of longitudinally spaced, parallel channels (6) which at least partially encircle the bottle (1), each channel (6) being bridged by at least one bridge (7) to strengthen the bottle. Each bridge may be inclined at any angle to the channel which it bridges, but preferably it is perpendicular to the channel. Preferably each channel is bridged by three bridges spaced at 120° intervals around the channel. The bridges are the same depth as the channels so as to provide the bottle with a smooth exterior.



GB 2 161 133 A

261133

1/1



SPECIFICATION

Container

- 5 The present invention relates to a container, and in particular to a container of plastics material, for example a bottle.

Bottles of plastics material are often formed with circumferential channels spaced apart by wall sections. This construction reduces the amount of material required to manufacture the bottle, and hence its weight, while providing an acceptable level of rigidity so that in use the bottle does not bend or distort. However, it is often found that even this construction does not provide a sufficient degree of strengthening and resistance to distortion, especially from vertically applied loads.

A novel construction has now been found which strengthens a bottle or other container, particularly its resistance to deformation in a vertical plane without unduly increasing its weight or the amount of material required in its manufacture.

According to the present invention there is provided a container of plastics material, comprising a body having a plurality of longitudinally spaced, parallel channels which at least partially encircle the container, each channel in a major proportion of the channels being bridged by at least one transverse bridge to strengthen the container.

Preferably every channel is bridged by a transverse bridge.

Suitably, each channel completely encircles the container.

Each transverse bridge may be inclined at any angle to a channel which it bridges, but preferably each bridge is perpendicular to a channel.

Each channel may be bridged by one or more transverse bridges, and in a preferred embodiment of the invention the channels completely encircle the container and each is bridged by three bridges equispaced around the channel.

Preferably, the container comprises PVC or a similar flexible plastics material, and is in the form of a substantially cylindrical bottle.

The container of the invention may be produced by moulding in accordance with conventional blow-moulding techniques. Each bridge is formed in the normal blowing operation and does not require additional material.

The invention is now described by way of example with reference to the accompanying drawing, which is a side elevation of a bottle.

Referring to the drawing, a PVC bottle 1 comprises a substantially cylindrical body 2, a neck 3 and a cap 4.

The body 2 has a number of circumferential channels 6 formed on its outer surface, each channel 6 being separated from an adjacent channel by a wall portion 5. Each channel is bridged by a bridge 7, there being three such

bridges spaced round the circumference of the channel at 120° intervals. Alternate channels have the bridges off-set by 60° from the bridges of the adjacent channels. The bridges 7 are the same depth as the channels 6 so as to be flush with the wall portions 5 and thereby provide the bottle with a smooth exterior.

The amount of additional material used, and the additional weight of the bottle, is small. However, the presence of the bridges 7 substantially increases the strength of the bottle, particularly its resistance to deformation away from the vertical.

It will be appreciated that many different arrangements of channels and bridges may be used to obtain desired strength characteristics without departing from the scope of the invention.

CLAIMS

1. A container of plastics material, comprising a body having a plurality of longitudinally spaced, parallel channels which at least partially encircle the container, each channel in a major proportion of the channels being bridged by at least one transverse bridge to strengthen the container.
2. A container according to claim 1 wherein every channel is bridged by a transverse bridge.
3. A container according to claim 1 or 2 wherein each bridge is perpendicular to a channel.
4. A container according to claim 3 where in the channels completely encircle the container and are bridged by three bridges equispaced around the channels.
5. A container according to any one of claims 1 to 4 which comprises flexible plastics material and is in the form of a substantially cylindrical bottle.
6. A container substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.